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AMSAT NEWS SERVICE
ANS-090

The AMSAT News Service bulletins are a free, weekly news and information service of AMSAT North America, The Radio Amateur Satellite Corporation. ANS publishes news related to Amateur Radio in Space including reports on the activities of a worldwide group of Amateur Radio operators who share an active interest in designing, building, launching and communicating through analog and digital Amateur Radio satellites.

The news feed on http://www.amsat.org publishes news of Amateur Radio in Space as soon as our volunteers can post it.

Please send any amateur satellite news or reports to:
ans-editor at amsat.org.

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ANS-090 AMSAT News Service Weekly Bulletins

AMSAT News Service Bulletin 090.01
>From AMSAT HQ SILVER SPRING, MD.
March 31, 2013
To All RADIO AMATEURS
BID: $ANS-090.01

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* Volunteers are needed to help at the AMSAT booth at Dayton.   *
* Steve Belter N9IP, is looking for volunteers to help man the  *
* AMSAT booth during the 2013 Hamvention. If you are willing    *
* to help at the Hamvention, please send an e-mail by April 30  *
* to Steve Belter, n9ip@amsat.org.                              *
*                                                               *
* Monitor the 'AMSAT at Dayton Hamvention 2013' link on the new *
* AMSAT Web Site http://www.amsat.org for the latest AMSAT at   *
* Dayton news and developments                                  *
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Schedule of AMSAT Activities at Dayton Hamvention

AMSAT Hamvention activities and displays are planned to take place
at the new booth location (444-446 and 433-435) in the Ball Arena,
and outside in the Satellite Demonstration Area just outside the
Ball Arena entrance.

2013 theme for AMSAT at Dayton is "AMSAT - A View to the Future."

Here are the daily AMSAT activities for on-site and off-site events
at the 2013 Hamvention!

Thursday 16 May 2013

+ 11:00 AM - 5:00 PM
  AMSAT Booth Setup at Ball Arena (contact Steve Belter, N9IP,
  n9ip at amsat.org if you can help during this time).

+ 6:30 PM - 10:00 PM
  The third Annual AMSAT "Dinner at Tickets" party will be held at
  Tickets Pub & Eatery in Fairborn, OH. Check out the 'AMSAT at Day-
  ton Hamvention 2013' link to the page 'AMSAT Dayton Social Events'
  on the new Web Site: http://www.amsat.org.

Friday 17 May 2013

+ 9:00 AM - 6:00 PM at the AMSAT Booth
  AMSAT Booth open for membership renewals, books, new items and
  information.

+ 6:30 PM - 10:30 PM AMSAT/TAPR Banquet at Dayton 2013
  AMSAT/TAPR Banquet on Friday night, May 18 is one of the main AMSAT
  activities during the 2013 Hamvention at Dayton. See the bulletin
  below for details!

Saturday 18 May 2013

+ 9:00 AM - 5:00 PM at the AMSAT Booth
  AMSAT Booth open for membership renewals, books, new items and
  information.

+ 11:15 AM - 1:30 PM The AMSAT Forum
  Get the latest information about what is going on with AMSAT and
  its projects. The AMSAT Forum will be held in Forum Room 5. See
  the bulletin below for details!

Sunday 19 May 2013

+ 9:00 AM - 1:00PM at the AMSAT Booth
  AMSAT Booth open for membership renewals, books, new items and
  information.

+ 1:00PM - 3:00PM at the AMSAT Booth
  Take down and storage of the AMSAT Booth. (contact Steve Belter,
  N9IP, n9ip at amsat.org if you can help during this time).

Demos Daily on Friday, Saturday, and Sunday for All Available Passes
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AMSAT is encouraging everyone attending the 2013 Dayton Hamvention
to come by the Satellite Demonstration Area just outside of the Ball
Area entrance and make a contact using the amateur satellites. There
will be AMSAT volunteers to explain how to make the contacts and dur-
ing actual satellite passes will complete as many actual contacts as
possible. Satellite pass times will be posted in the satellite demon-
stration area and at the AMSAT booth.

[ANS thanks AMSAT's 2013 Dayton Committee for the above information]

AMSAT/TAPR Banquet Speaker: Bruce Perens, K6BP

The seventh annual AMSAT/TAPR Banquet will be held on Friday evening, May 17. This dinner will be one of the highlights of the AMSAT activities during the 2013 Hamvention at Dayton.

This year's speaker will be Bruce Perens, K6BP, with a humorous history of technology evangelism: "The Evangelist's Dilemma: Driving New Ideas With Nothing But Words." As you can imagine, when you're promoting new ideas, there are things that inevitably go wrong. Bruce will pull examples from his history with Open Source, No-Code, Software Freedom, Codec2, and Open Hardware, and he'll introduce a few of the new battle grounds.

[ANS thanks AMSAT's 2013 Dayton Committee for the above information]

AMSAT Store Now Selling Tickets for AMSAT/TAPR Friday Night Banquet

Tickets for the dinner are $30 each, and must be purchased from the AMSAT Store at http://store.amsat.org/catalog/ by Tuesday, May 14.

The dinner will be held at:

The Kohler Presidential Banquet Center
4548 Presidential Way
Kettering, OH 45429

Doors open at 1830 for a cash bar with buffet dinner served at 1915.

Seating is limited to the number of meals we reserve with the Kohler caterers, based on the number of tickets sold by the deadline. Tickets will not be sold at Dayton, but tickets purchased online may be collected at the AMSAT booth (444-446 and 433-435).

Join us for a fun evening with good food, great company, and an outstanding speaker.

[ANS thanks AMSAT's 2013 Dayton Committee for the above information]

"Dayton Only" Special Deals at the AMSAT Store

As usual, during the Hamvention AMSAT will have a number of special items and packages available at the booth. These will range from new design shirts and hats, to tracking hardware and software, to Elk antennas.

Many of the shirts and trinkets are only available at Dayton. When they are gone, they are gone! Be sure to stop by the booth early while we have a full range of sizes.

Here are some of the bargains announced for Dayton Hamvention 2013:

+ SATPC32 - $40 (normally $45 for members)
+ AMSAT TOTE BAG - $5.00 (Free for new and renewing members and for those who buy a LVB Tracker Box.)
+ AMSAT LICENSE PLATE HOLDER - $5.00 (Free for new and renewing members)

These items are only available at Dayton:
+ LVB TRACKER BOX - $200
+ ELK ANTENNA - $125

The full shopping list, including publications, software, hardware, apparel, and sustaining memberships are posted on the AMSAT On-Line Store at: http://ww2.amsat.org/?page_id)6

Please do not contact the AMSAT office requesting Dayton-only specials. Our regular offerings remain available at the AMSAT Store: http://store.amsat.org/catalog/

[ANS thanks Alan Biddle, WA4SCA for the above information]

Google Earth Satellite Tracker Software Rollout for Demo and Testing

Joseph Armbruster, KJ4JIO has rolled out his software project for testing by interested amateur satellite operators. His Python-based Google Earth Satellite Tracker adds satellite tracking to the Google Earth map features.

This is an on-going development project which, at present, requires you to have Python 2.7, and supporting environment installed on your computer. Full details of the installation steps are documented on Joe's Google Earth Satellite Tracker project page: https://code.google.com/p/ge-satellite-tracker/

Example screen shots along with an ongoing blog of the project's development is posted at: http://libjoe.blogspot.com/2013/03/google-earth-satellite-tracker.html

[ANS thanks Joseph Armbruster, KJ4JIO for the above information]

AMSAT-UK Colloquium 2013 Announced for July 19-21

The AMSAT-UK International Space Colloquium 2013 will be held on July 19-21, 2013 at the Holiday Inn, Guildford, GU2 7XZ, United Kingdom. In conjunction with the event a Hands-on CubeSat Workshop will take place at the nearby University of Surrey on Friday, July 19. Colloquium program information, travel information and hotel booking information is posted at:

http://amsat-uk.org/colloquium/colloquium-2013/

The Colloquium attracts an international audience from across Europe as well as North America and the Middle East. Attendees range from the builders of the CubeSats and Nanosats, those who communicate

through them and beginners who wish to find out more about this fascinating branch of the hobby.

Call For Papers and Speakers

AMSAT-UK invites speakers, to cover topics about micro-satellites, CubeSats, Nanosats, space and associated activities, for this event.

They are also invited to submit papers for subsequent publishing on the AMSAT-UK web site. We normally prefer authors to present talks themselves rather than having someone else give them in the authors' absence. We also welcome 'unpresented' papers for the web site.

We appreciate that it is not always possible to give a firm indication of attendance at this stage but expressions of interest would be appreciated.

Submissions should be sent *ONLY* to G4DPZ, via the following routes:
e-mail: dave at g4dpz dot me dot uk
Postal address at http://www.qrz.com/db/G4DPZ

AMSAT-UK also invite anyone with requests for Program Topics to submit them as soon as possible to G4DPZ.

[ANS thanks AMSAT-UK for the above information]

South Africa AMSAT Space Symposium to Feature Interesting Topics

The South Africa AMSAT Space Symposium will be held at the Innovation Hub in Pretoria on Saturday, May 18, 2013. Some of the topics on the agenda include:

+ A full report on the SA AMSAT KLETSkous cubesat
+ How DynaCube will, after launch, study the particle radiation in the South Atlantic
+ Building a 14 MHz receiver to measure signal properties of the ZACUBE 1
+ Innovative Solutions in Space by ISIS

The full program and registration forms will be available soon at: http://www.amsatsa.org.za/.

[ANS thanks SA AMSAT and SARL News 3/30/2013 for the above information]

VO-52 HAMSAT Transponder User Feedback Requested

Mani, VU2WMY, Secretary & Station-In-Charge of the Upagrah Amateur Radio Club VU2URC at India's ISRO Satellite Centre, has issued a request for user feedback from amateur satellite operators using the VO-52 HAMSAT transponder.

Mani wrote, "We are in need of the latest user feed backs and reports on the performance of the current transponder on-board VO-52 [Hamsat] for routine official documentation purposes.

"Hence, We request VO-52 users to kindly send in their latest re-
ports and valuable feed backs, so as to enable us to complete the
procedures at the earliest."

Reports should be sent via e-mail to Mani at: wmy@isac.gov.in
He also requests you to copy your report to tprangan@istrac.org

[ANS thanks Mani, VU2WMY for the above information]

Cubesat Launches Planned for April

April 19 BAIKONUR Soyuz-2-1b

A Soyuz-2-1b from the Baikonur launch facility, in Kazakhstan on
April 19, 2013 will include three cubesat missions:

Satellite	Downlink	Mode
OSSI-1	145.980/437.525	CW/1200bps
SOMP	437.485	1200, 9600bps BPSK
BEESAT-2/3	435.950	4800bps GMSK
Bion-M1	Biological research satellites	
AIST	Measurement of the Earth's geomagnetic field	
Dove-2	Commercial technology demonstration mission	

OSSI-1

145.980 MHz CW, 437.525 MHz 1k2

OSSI-1, the Open Source Satellite Initiative satellite is a cubesat
developed by Hojun Song DS1SBO. In addition to the radio beacons
OSSI-1 also carries a 44 watt LED optical beacon to flash Morse Code
messages to observers on Earth.

The development of the satellite has been documented on the Open
Source Satellite Initiative Blog http://opensat.cc/blog/ and the
Wiki http://opensat.cc/wiki/
http://www.youtube.com/watch?v=0L0zSY6cg

SOMP

Downlink on 437.485 MHz including CW, 1k2 and 9k6 BPSK, AX25 FSK,
and AO40 standard 400bit/s BPSK

The Student Oxygen Measurement Project (SOMP) is a cubesat devel-
oped by students of the Technische Universit[illegible]t Dresden, Germany,
organized in the Students[illegible] Research Group for Spacecraft Engineer-
ing in Dresden (STARD). SOMP will be a standard sized single CubeSat
with one payload side and five sides with two solar cells each.

http://phpweb.tu-dresden.de/stard/SOMP/?lang=
http://tinyurl.com/SOMP-AMSAT-UK-Posting

BEESAT-2/3 (Berlin Experimental and Educational Satellite)
435.950 MHz, 4k8 GMSK (both satellites)

BEESAT-2 is a cubesat-sized vehicle carries a technology experiment

using gyros and sensors for precise orientation.

BEESat-3 is another cubesat-sized vehicle that will test high-speed data links (up to 1MB/s).

http://www.raumfahrttechnik.tu-berlin.de/beesat/

The above cubesat missions and the scientific/commercial missions are also documented on Mineo Wakita's (JE9PEL) web page at: http://www.ne.jp/asahi/hamradio/je9pel/ossisomp.htm

April 20 KOUROU Vega Launch

Estonia's first CubeSat ESTCube-1, amateur radio callsign ES5E/S, is planning to launch from Kourou in the Caribbean at 02:06:31 UT, April 20, 2013 on an ESA VEGA rocket.

Built by students at the University of Tartu ESTCube-1 the main mission of the satellite is to test electric solar wind sail technology, a novel space propulsion technology that could revolutionalize transportation within the solar system. It will deploy a 10 meter conductive electrodynamic tether and the force interacting with the tether will be measured.

The IARU Amateur Satellite Frequency Coordination Panel have published these frequencies for ESTCube-1:

+ 437.250 MHz – CW beacon, callsign ES5E/S
+ 437.505 MHz – 9600 bps AX.25 telemetry, callsign ES5E-11

More information and a video has been posted at: http://amsat-uk.org/?p774

April 25 on CZ-2D from China's Jiuquan Space Center

TAMSAT reports the TURKSAT-3USAT, the first communication nanosatellite mission of ITU, Istanbul Technical University, Istanbul, Turkey is expected to launch in the May 2013 timeframe aboard China's Chang Zheng-2D rocket. Also aboard this launch will be Ecuador's NEE 01 Pegaso 1U cubesat.

TURKSAT-3USAT is a three unit CubeSat developed to provide SSB/CW communications in a 680 km Low Earth Orbit. It will fly a V/U linear transponder developed by TAMSAT, the Turkish Amateur Satellite Technologies Organisation.

+ Uplink center frequency 145.965 MHz
  (145.940-145.990 MHz bandwidth)
  Receive sensitivity -120 dBm

+ Downlink center frequency 435.225 MHz
  (435.200-435.250 MHz bandwidth)
  Output power 30 dBm (1W)

+ CW beacon on 437.225 MHz

Additional information can be accessed on-line at:
http://www.tamsat.org.tr/tr/turksat-3usat-is-almost-ready/
http://www.uk.amsat.org/?p670

[ANS thanks AMSAT-UK and Mineo Wakita, JE9PEL for the above information]

ARISS School Contacts This Week

Katy, Texas

An International Space Station school contact was held with participants at Thornton Middle School, Katy, TX on March 25. The contact was direct between NA1SS and KF5NZD.

Thornton Middle School students, due to their economic backgrounds, have limited opportunities for enrichment activities beyond those that can be implemented in the classroom. Many of its students and families believe that opportunities in high paying STEM careers are beyond the reach of Thornton students, and that, "other kids have all the luck." This ARISS contact helped dispel these perceptions and will demonstrate to the students and families that Thornton students are capable of complex problem solving, and that they are capable of learning "Rocket Science" material.

Quebec, Canada

An International Space Station school contact was held with participants at Des Cardinaux School, Sainte-Rose, Laval, Quebec, Canada on March 26. The contact was a telebridge between NA1SS and K6DUE.

This school is located in the Sainte-Rose, Laval. The school is a French primary school which includes preschool students in the second year of the third cycle. It has approximately 580 students. The students spoke with Col. Chris Hadfield, Canada's first commander of the ISS.

Planned Contacts Next Week

+ Stratford Academy, Macon, GA, telebridge via W6SRJ on April 3 at 12:47 UTC.

+ 820 Chris Hadfield Royal Canadian Air Cadet Squadron, Milton, Ontario, Canada, telebridge via LU8YY on April 6 at 20:25 UTC.

ARISS is requesting listener reports for these contacts. Due to issues with the Kenwood radio that are not fully understood at present, the Ericsson radio is going to be used for this contact. ARISS thanks everyone in advance for their assistance.

The total number of ARISS ISS to earth school events now is at 805.

[ANS thanks ARISS for the above information]

Satellite Shorts From All Over

+ Look for Paul, 2E1EUB operating portable/mobile on all satellites from Scotland as 2M1EUB/P starting on April 4 for 7 days. Paul has posted additional information on his callsign lookup page at: http://www.qrz.com/ for the callsign 2M1EUB.

+ Special Event in Mexico - FMRE, with the help of Grupo DXXE, will

activate a unique prefix for the first time: 4 A 8 DMR (DMR ��a Mundial del Radioaficionado). This station will be active from April 18 to 21, 2013 on all bands from 6 meters to 160 in all modes including EME and amateur radio satellites from different Grid Locators throughout Mexico. (WIANEWS - March 31 2013)

+ Bob, W7LRD (grid CN87) reported a successful contact with Boris, UA0QJ (grid PP42) via FO-29 on March 26. The range between the two stations is 6268 km. Both stations were stretching the foot-print with low elevations at both ends of the contact.

+ Watch a video of WD9EWK working FO-29 from the Scottsdale, Arizona Hamfest on Saturday, March 9. 2013. Patrick used two FT-817ND rigs, one for the uplink transmitter, the second to receive the downlink on a handheld ELK 2M/70cm antenna. The video is posted at: http://www.youtube.com/watch?feature�ayer_embedded&v�hR7Doby0E

+ The TAPR Forum at the Hamvention plans to have a presentation by Chris Testa, KD2BMH, on his handheld Software Defined Radio (SDR) transceiver. His low powered 144 and 440-MHz radio operates in a variety of digital modes, as well as AM, FM, and SSB. For a pre-view of the topic see: http://tinyurl.com/KD2BMH-SDR-Handheld The TAPR Forum will be on Friday from 9:15-11:00 AM in Room 1. (TAPR PSR #121 WINTER 2013)

+ James W. Cutler, KF6RFX, Assistant Professor, Department of Aero-space Engineering at the University of Michigan (developers of the successful RAX cubesat mission) invite amateur satellite oper-ators to participate in the Ground Station Survey. The engineering team is collecting information on global ground station availabil-ity to improve satellite communication capabilities. Their goal is to survey existing and under utilized ground antennas to im-prove satellite communication opportunities. To participate go to: http://gs.engin.umich.edu/gs_survey/

+ NASA posted a video about the CubeSat Launch Initiative which pro-vides new opportunities for Science, Technology, Engineering and Mathematics by helping people design, launch and collect data: http://www.youtube.com/watch?feature�ayer_embedded&v�8k0RRmOKk

+ The CQ Magazine Newsroom at http://cqnewsroom.blogspot.com/ has posted several news items of amateur radio in space:
  o AMSAT Preparing for Two Launch Opportunities
  o Smartphone-based Ham Satellite Now in Orbit
  o Hams Take Part in ISS "Dead Zone" Experiment
  o AMSAT Website Hacked, Taken Offline
  o AMSAT Receives Matching Fund Challenge for Fox Contributions
  o 6-Meter Beacon from Antarctica? (also plans for satellite ops)

+ In the April, 2013 QST "World Above 50MHz" column (page 94) Roger, VE1SKY says he uses his VHF and UHF gear on AO-7, FO-29, and VO-52 while waiting for the next band opening. Roger is quoted, "This is a good way to make use of your gear and a challenging activity in its own right." [Ed. note] - This could work the other way around: ... while you are waiting for the next satellite pass use your VHF and UHF station to check if the bands are open ... further use of your gear as well.

+ Enjoy shopping in the ham radio shops in Akihabara, Tokyo, Japan in this video by Marcin Kielce, SQ7BCE. Although the commentary is in Polish it none-the-less provides a good idea of the range of equipment available and the prices in Japan. To convert the prices shown to UK Pounds Sterling divide by 142 or to get the US dollar price divide by 94. Watch it on Southgate at:

http://tinyurl.com/Southgate-Tokyo-Shopping.

[ANS thanks everyone for the above information]

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In addition to regular membership, AMSAT offers membership in the President's Club. Members of the President's Club, as sustaining donors to AMSAT Project Funds, will be eligible to receive additional benefits. Application forms are available from the AMSAT Office.

Primary and secondary school students are eligible for membership at one-half the standard yearly rate. Post-secondary school students enrolled in at least half time status shall be eligible for the student rate for a maximum of 6 post-secondary years in this status. Contact Martha at the AMSAT Office for additional student membership information. And with that please keep in mind that the best number is 73. Why? 73 is the 21st prime number. Its mirror (37) is the 12th and its mirror (21) is the product of multiplying, 7 and 3. ... In binary, 73 is a palindrome, 1001001 which backwards is 1001001. In Morse Code it is also a palindrome --... ...--

73,
This week's ANS Editor,
JoAnne Maenpaa, K9JKM